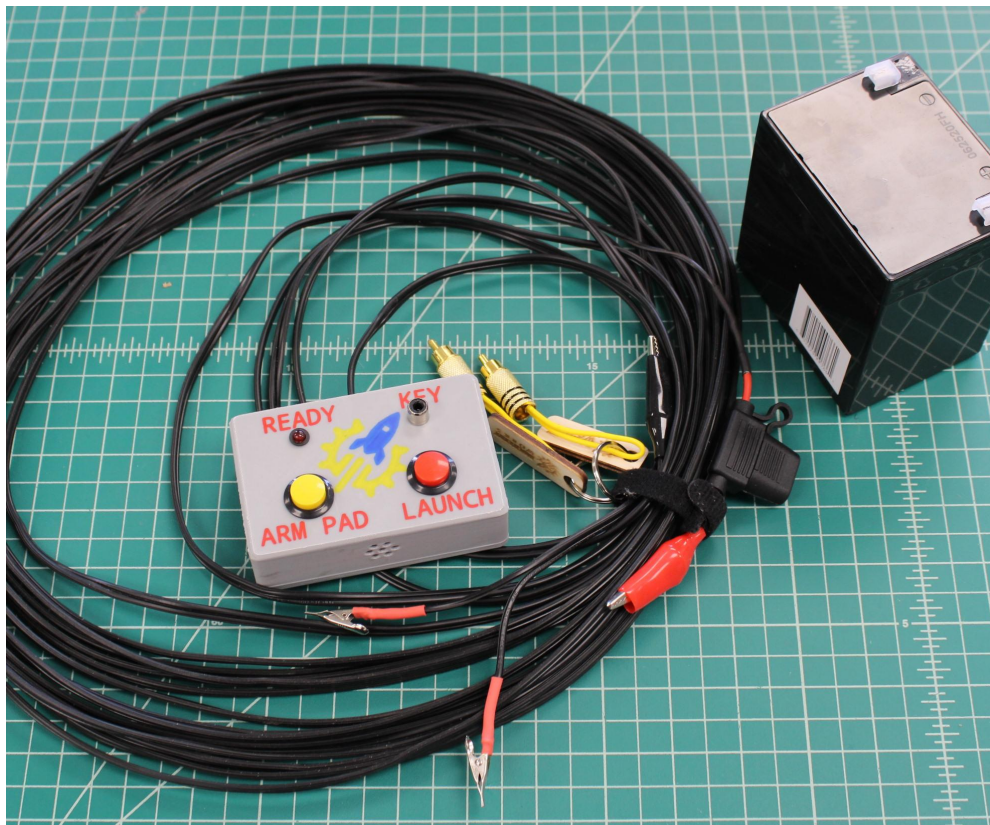# Antares Launch Controller Product Documentation

The Rocketry Works Antares Launch Controller provides robust electrical ignition for model rockets or high power rockets, depending on the length of cable you order. It is designed for use with the Rocketry Works Wallops Island launch pad, though it can work with many launch pads.

Antares Launch Controller Features

- Robust internal electronics ensure safe operation using a variety of battery sources.
- Removable safety key as required by the NAR Safety Code.
  And we include a spare key.
- Audible warning and illuminated continuity indicator at the controller when you press the yellow Arm Pad button, exceeding the NAR Safety Code requirements.
- 2 buttons are required to launch--an additional precaution that reduces the risk of accidental launches.
- Choice of 2 cable lengths:
  - 50 feet, suitable for up to G power motors, with room to spare per the safety code.
  - 100 feet, suitable for up to J power motors.
- Optional spool for neater cable storage; this is particularly useful for the 100 ft option.
- Hand-soldered stainless steel igniter clips.
- Hand-soldered stainless steel battery clips.
- Firing circuit is entirely 18 gauge wire and hand-soldered, providing sturdy connections and strong current all the way to the pad.
- Designed for use with 12 volt sealed lead acid batteries to reduce the incidence of battery-related misfires common with lower voltage alkaline battery systems.
- Can also use a 12 volt motorcycle, car or boat battery as a power supply.

What's in the Box

- Antares launch controller
  - Igniter leads are small smooth-jawed clips at the cable's opposite end from the controller.
  - Battery clips are larger jagged-jawed clips close to the controller box
  - 2 safety keys--one for regular use, and one as a spare.
    Be sure to control access to both safety keys at all times.
- Optionally, a 12 volt battery, battery charger, and spool for neater cable storage.

Controller Setup

1. Extend the cable so the igniter clips are at your launch pad, and the rest of the controller is a suitable distance from the launch pad.
   - For flying motors up to D power, all personnel must be at least 15 feet from the pad.
   - For flying motors E through G power, all personnel must be at least 30 feet from the pad.
   - For flying motors H through J power, all personnel must be at least 100 feet from the pad.
   - You should reference the NAR Safety Codes for appropriate field sizes for your rocket.
2. Start with a continuity test to make sure your controller is set up properly; just connect the igniter clips to each other.
3. Connect the red battery clip to the red battery terminal, and the black battery clip to the black battery terminal.
   No harm done if you reverse the clips, but the controller won't work.
4. Insert the safety key into the controller's KEY port.
   As the Launch Control Officer (LCO), make it a habit to keep the safety keys in your possession at all times, so you know the pad is safed when you are not at the controller.
5. Press the yellow ARM PAD button to verify electrical continuity.
   The red READY light will illuminate and the buzzer will sound when you have continuity.

6. Now that you know the controller is set up correctly, perform an open circuit test; remove the safety key and disconnect the igniter clips from each other.

7. Return to the controller, insert the safety key and press the yellow ARM PAD button again.
You'll see no READY light and the buzzer will not sound if you do not have continuity.
8. Remove the safety key, and prepare your rocket for launch.

Controller Operation

1. With the safety key in your control, connect the igniter clips to the rocket's igniter leads, making sure that the leads are not touching each other or any metal surfaces like the blast deflector or launch rod.
2. Return to the controller, check the range and sky for safety issues, and announce your launch.
3. Insert the safety key, and press the yellow ARM PAD button as you begin your countdown from 5.
You'll see the red READY light illuminate and the buzzer will sound if you have electrical continuity.
4. When your countdown reaches 0, Press and hold both the yellow ARM PAD and red LAUNCH buttons simultaneously for several seconds, until your motor(s) ignite.
The buzzer will stop beeping and the red READY light will turn off as current flows to the igniter.

5. Release both buttons and remove the safety key to safe the controller.
6. Wait 60 seconds after a misfire before allowing anyone to approach the launch pad.